

DT15 Rec'd PCT/PTO 11 3 JUL 2004

CLAIMS

1. A composition (8) for coating food products (45), the composition including sodium alginate.
- 5 2. A composition according to claim 1, further comprising vegetable proteins, and/or sugar, and/or maltodextrin.
3. A composition according to claim 1 or claim 2, in which the sodium alginate in the form of a powder  
10 dispersed in an aqueous solution, the composition presenting fluidity that is sufficiently high to enable it to be transported under drive from a pump and to enable it to be sprayed through nozzles to sprinkle the food products that are to be coated.
- 15 4. A composition according to any one of claims 1 to 3, in which the proportion by weight of sodium alginate in the composition lies in the range 0.2% to 5%.
- 20 5. A food product (45), in particular a sausage, comprising molded sausage meat (or purée, or paste), the food product being characterized in that it is coated in a composition comprising a calcium alginate gel.
- 25 6. A method of making a product according to claim 5, in which a composition according to any one of claims 1 to 4 is used.
7. A method of making sausages, characterized in that the  
30 sausages are coated in a film comprising a heat-resistant gel such as a calcium alginate gel.
8. A method according to claim 6 or claim 7, comprising the following steps in succession:  
35     • forming a sausage of raw sausage meat, purée, or paste, by causing it to pass through a preferably tubular mold (2);

- cutting the sausage into segments having ends that are preferably rounded;

- moving the segments (45) while coating them in a first composition (8) containing sodium alginate, so as to coat the segments in a film of said first composition; and

- putting the coated segments into contact with a second composition (44) containing a calcium salt so as to cause a calcium alginate gel to form.

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9. A method according to claim 8, in which the food products are immersed in succession in two baths of said first and second compositions, in which the products are wetted with said first composition, in which the surface distribution of the first composition on the coated products is modified by draining and/or by the action of the jets of air in order to improve and homogenize the quality with which said first composition is coated, prior to immersing the products in said second composition, and in which the proportion of calcium salt in the second composition lies in a range 0.1% to 15%.

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10. A method of making food products (45) based on fibrous meat, by passing the meat through a tubular mold (2) to form a sausage, in particular a method according to any one of claims 6 to 9, in which the sausage is caused to contract and then to expand, the contraction being designed to cause at least a fraction of the fibers (46) of the fibrous meat to take up a transverse orientation.

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11. Apparatus (31) for making food products from sausage meat (or purée, or paste), in particular apparatus enabling a method according to any one of claims 6 to 10 to be implemented, the apparatus comprising a mold (2) and means for introducing the meat into the mold, and being characterized in that it includes covering means

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(5, 6, 35, 42, A1, A2, 62 to 64) for coating the meat in a gelling composition.

12. Apparatus according to claim 11, further comprising  
5 moving separator means for separating the meat into segments, a first vessel (35) suitable for containing a first bath of a first composition (8) for coating the products, and a second vessel (42) suitable for  
10 containing a second bath (44) of a second composition for coating the product, and means (5) for transporting the segments serving to transport the segments from the first vessel to the second vessel, said transport means including means for causing the segments to drop.

13. Apparatus according to claim 11 or claim 12,  
15 including means (in particular ejection nozzles and/or transport channels (62 to 64)) for introducing the gelling composition close to the moving separator means (54, 55), preferably upstream therefrom, such that said  
20 composition contributes to limiting or avoiding adhesion of the meat on the moving separator means, to reducing friction between said moving means, and to facilitating regular shaping of the segments, and in particular of their ends.

25 14. Apparatus according any one of claims 11 to 13, including a plurality of tubular molds or nozzles (2) enabling a plurality of meat sausages to be formed simultaneously, and a plurality of moving shaping and  
30 cutting means associated respectively with the tubular molds and enabling the sausages to be separated simultaneously into segments.

15. Apparatus according to claim 14, including means (73,  
35 79) for distributing meat to the tubular molds, which meat is delivered via a meat feed orifice or duct orifice (76).

16. Apparatus according to claim 15, in which the meat distribution - or separation - means comprise a rotary structure (73) defining a distribution cavity (79)  
5 communicating with the tubular molds and also with the meat feed orifice.

17. Apparatus according to claim 16, in which the rotary structure presents an outside surface (87) including  
10 rotary drive means, in particular an outside surface carrying teeth suitable for meshing with a drive member such as a gearwheel (85), and in which said rotary structure includes knives.

18. Apparatus according to claim 16 or claim 17, in which  
15 the distribution cavity presents symmetry about the axis of rotation (80) of the rotary structure, in which the meat feed orifice is substantially centered on said axis of rotation, and in which the meat outlet orifices (89 to  
20 91) via which the distribution cavity communicates with the tubular molds extend symmetrically relative to said axis so as to encourage balanced distribution to the tubular molds of the meat delivered by the feed orifice.

19. Apparatus according to any one of claims 14 to 18, in  
25 which the molds are parallel and in substantially horizontal alignment, so as to encourage segments of meat sausage to be delivered in line with a conveyor belt (5) conveying the segments from the outlet of the separator  
30 means to the inlet of means for covering them by immersion.

20. Apparatus according to any one of claims 11 to 19, in  
35 which the tubular mold(s) is/are fixed to a separator and shaping structure (3) and to a meat pusher unit by removable connection means (60) facilitating removal of the mold(s) for cleaning and/or exchange purposes.

21. Apparatus according to any one of claims 14 to 20,  
comprising a frame (32) supporting a structure (3) for  
separating and shaping segments and also means (73, 79)  
5 for distributing meat to the tubular molds, in particular  
the rotary structure according to claim 16, which frame  
is adjustable or deformable, in particular telescopic, so  
as to make it easier to install and remove tubular molds  
and/or meat distribution means.

10 22. Apparatus according to any one of claims 12 to 21, in  
which the moving separator means comprise two blades (54,  
55) mounted to move in reciprocating translation on a  
structure (or head) (3, 49) for separating and shaping  
15 segments, the blades forming a guillotine, the end of  
each blade being shaped firstly to separate the  
continuous sausage into segments while the blades are in  
a first relative position in which they are closed, and  
secondly to shape an end of a segment of meat sausage  
20 while the blades are in a second relative position in  
which they are partially open.

23. Apparatus according to claim 22, in which each of the  
blades include a semicircular notch (100, 101), the edge  
25 of the notch being tapered to form a cutting edge of  
chamfer (102, 103) of substantially spherical shape.

24. Apparatus according to claim 22 or claim 23, having  
two actuators (50, 51) for driving the two blades  
30 respectively, a control unit (93) suitable for  
controlling the operation of the actuators and also for  
controlling the operation of the means for introducing  
meat into the mold, the control unit including means for  
individually controlling the two actuators and the  
35 introduction means so as to cause meat to pass through an  
orifice (105) defined by the blades, when the tubular  
mold is in a position in which it is partially closed by

the blades, thereby causing the section of a segment of sausage to decrease progressively in the vicinity of its end in order to facilitate shaping the ends of the segments.

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25. Apparatus according to any one of claims 11 to 24, including means (112, 114) for constricting the flow of sausage-shaped meat, suitable for modifying the orientation of fibers in the sausage of meat, for  
10 improving cohesion of the sausage of meat, and/or for improving its behavior during cooking.

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26. Apparatus according to any one of claims 11 to 25, including means for homogenizing the film or layer of the composition coating the product, which means are disposed between said first and second vessels defined in claim 12, said means preferably including nozzles (10) for blowing air (or an appropriate gas) onto the products (45).